

REMARKS

Reconsideration of the pending application is respectfully requested on the basis of the following particulars:

Rejection of claim 6 under 35 U.S.C. § 112, second paragraph

Claim 6 presently stands rejected as being indefinite. In particular, the examiner questions “how the fuel cell system is started up after the start switch is turned off.”

Applicants respectfully wish to draw the examiner’s attention to the language of claim 6 which refers to a power generation start-up time of the fuel cell “[...] when the *start switch is turned on* after a lapse of a predetermined period of time after the start switch has been turned off [...].”

That is, the claim 6 refers to starting up the fuel cell by turning the start switch on, after some time period has elapsed since turning the start switch off, or restarting the fuel cell.

It is respectfully submitted that claim 6 clearly sets forth that the fuel cell started by turning the start switch on, and that the power generation start-up time is when the start switch is turned on after a predetermined time period has lapsed since the switch has been previously turned off.

Since the claim clearly refers to “when the start switch is turned on,” Applicants respectfully submit that the examiner’s understanding that the fuel cell system is started after the start switch is turned off is incorrect, and contrary to the clear language of the claim which simply points out that the fuel cell system can be started again by turning the start switch on after it has been previously turned off.

It is respectfully submitted that persons of ordinary skill in the art will recognize that turning the start switch on starts the fuel cell, and therefore it is respectfully submitted that claim 6 is clear and fully compliant with the requirements of 35 U.S.C. § 112, second paragraph. Accordingly, withdrawal of the rejection is requested.

Common ownership of Horiguchi et al. (U.S. 6,896,985)

Applicants note that the present application and the Horiguchi reference (U.S. 6,896,985) were, at the time the invention was made, owned by, or subject to an obligation of assignment to, Kabushiki Kaisha Equos Research (the assignee of the present application and U.S. 6,896,985).

Therefore, it is respectfully submitted that Horiguchi is disqualified as prior art under 35 U.S.C. 103(c).

Rejection of claims 1-6 and 22-29 under 35 U.S.C. § 102(e)

Claims 1-6 and 22-29 presently stand rejected as being anticipated by Horiguchi et al. (U.S. 6,896,985). This rejection is respectfully traversed for at least the following reasons.

According to the presently claimed invention, the hydrogen sensor is provided on the fuel gas discharge line, apart from the fuel cell. Also, the pressure regulating means switches the supply pressure of the flow of the fuel gas from the first pressure (for a start up state) to the second pressure (for normal operation) when the detected hydrogen concentration of the fuel gas in the fuel chamber exceeds a predetermine hydrogen concentration.

It is respectfully submitted that Horiguchi does not disclose or suggest a hydrogen sensor provided on the fuel gas discharge line apart from the fuel cell, or a pressure regulating means, as set forth in claim 1, that switches the supply pressure of the flow of the fuel gas from the first pressure (for a start up state) to the second pressure (for normal operation) when the detected hydrogen concentration of the fuel gas in the fuel chamber exceeds a predetermine hydrogen concentration.

Instead, in contrast with the present invention, Horiguchi provides hydrogen concentration sensors 27c, 27d directly on the end plates 10h, 10i of the fuel cell assembly 10, as can be seen in Horiguchi's Fig. 4.

That is, according to Horiguchi, the hydrogen concentration sensors are integrally provided in the fuel cell assembly 10. Horiguchi states that “[i]n this way, the hydrogen concentration sensors C (27c to 27d) are provided in the regions where the hydrogen gas is apt to stagnate in the fuel chamber 22b, so that the hydrogen gas in the fuel chamber 22b can be almost completely sucked by the hydrogen suction pump 82 and the like.” (*Horiguchi*; col. 10, lines 5-10). That is, according to Horiguchi, the purpose of the hydrogen sensors is to detect whether or not hydrogen is completely exhausted or discharged from the inside of the fuel cell assembly. Thus, according to Horiguchi it is necessary to locate the hydrogen sensors at positions where hydrogen is likely to remain.

It can therefore be recognized that both the location and function of the hydrogen concentration sensors of the present invention differ from those of the hydrogen concentrations sensors of Horiguchi. Therefore, it is respectfully submitted that Horiguchi fails to disclose or suggest each and every element of the presently claimed invention, and that claim 1, along with claims 2-6, 22, 23 and 25 which depend from claim 1, are allowable over the cited reference, and withdrawal of the rejection is respectfully requested.

Rejection of claims 30 and 31 under 35 U.S.C. § 103(a)

Claim 30 presently stands rejected as being unpatentable over Horiguchi. This rejection is respectfully traversed for at least the following reasons.

Claim 30 has been rewritten in independent form, including all of the elements of the base claim (claim 1), and claim 31 is cancelled.

As noted above, the Horiguchi patent is disqualified as prior art under 35 U.S.C. 103(c) since the Horiguchi patent and the present application were commonly owned by or subject to assignment to Kabushiki Kaisha Equos Research at the time the invention was made.

Therefore, it is respectfully submitted that claim 30 is allowable, and withdrawal of the rejection is requested.

Conclusion

In view of the amendments to the claims, and in further view of the foregoing remarks, it is respectfully submitted that the application is in condition for allowance. Accordingly, it is requested that claims 1-6, 22, 23, 25 and 30 be allowed and the application be passed to issue.

If any issues remain that may be resolved by a telephone or facsimile communication with the Applicant's attorney, the Examiner is invited to contact the undersigned at the numbers shown.

Respectfully submitted,

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